

REMARKS

Claims 1-22 are pending in this application.

Claims 1-22 are rejected.

No claims have been amended.

Reconsideration of the claims is respectfully requested. The Applicants make the following arguments to place this application in condition for allowance. Alternatively, the Applicants offer these arguments to properly frame the issues for appeal.

CLAIM REJECTION UNDER 35 U.S.C. § 103

Claims 1, 3, 5-14, 16 and 18-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,665,297 to *Hariguchi et al.* (“Hariguchi”) in view of U.S. Patent No. 6,067,547 to *Douceur* (“Douceur”) and further in view of U.S. Patent No. 7,194,740 to *Frank et al.* (“Frank”). Claims 2 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hariguchi in view of Douceur and Frank, and further in view of U.S. Patent No. 5,784,699 to *McMahon et al.* (“McMahon”). Claims 4 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hariguchi in view of U.S. Patent Publication No. 2001/0027479 to *Delaney et al.* (“Delaney”) and Frank, and further in view of U.S. Patent No. 6,625,612 to *Tal et al.* (“Tal”).

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142, p. 2100-127 (8th ed. rev. 8 July 2010). Absent such a *prima facie* case, the applicant is under no obligation to produce evidence of nonobviousness. *Id.*

As an initial matter, the Applicants note that this same rejection of the independent claims was asserted in the Office Action dated October 7, 2010. The Applicants responded to the rejection with a Notice of Appeal and a Pre-Appeal Brief Request for Review. According to the Notice of Panel Decision dated April 8, 2011, the rejection would be withdrawn and a new Office Action would be mailed. However, in the Office Action dated June 23, 2011, the same rejection was maintained rather than withdrawn. As the Panel appears to have found the earlier rejection lacking in establishing a *prima facie* case of obviousness, so too does the same rejection in the current Office Action fail to establish a *prima facie* case of obviousness.

Independent Claim 1 recites an address lookup structure that includes:

- a plurality of hash tables each storing prefixes for address lookups;
- a content addressable memory storing at least some prefixes for which a collision occurs within at least one of the hash tables; and
- a hashing lookup search mechanism that comprises:
 - a routing table implemented with selective hashing for a plurality of prefixes with different lengths; and
 - a plurality of memory blocks, wherein each hash table is allocated a group of the memory blocks based on a size of the respective hash table and a pre-assigned maximum number of allocated blocks.

The Hariguchi, Douceur, and Frank references, taken alone or in combination, do not teach or suggest each and every element recited in Claim 1. In particular, Frank does not provide a disclosure that remedies the conceded deficiencies of Hariguchi and Douceur. Accordingly, without conceding the propriety of the asserted combination, the asserted combination is likewise deficient.

The Office Action concedes that Hariguchi does not teach “each hash table is allocated a group of the memory blocks based on a size of the respective hash table and a pre-assigned maximum number of allocated blocks.” Instead, the Office Action rejects Claim 1 contending that Douceur teaches “a hash table is allocated a group of memory blocks based on a size of the respective hash table” and that Frank teaches “allocating memory based on a pre-assigned maximum number of memory.” In particular, the Office Action asserts that Frank, col. 5, lines 31-34, teaches “allocating memory based on a pre-assigned maximum number of memory.” However, the Office Action’s characterizations of Frank are factually incorrect for a number of reasons.

First, Frank simply discloses a system to provide a requested memory to a requesting process. (Frank, Abstract). Frank discloses that memory has a maximum size based on the size of the memory address bus and, as such, processes also are limited to a maximum size. (Frank, col. 1, lines 16-24). The portion of Frank cited by in the Office Action only teaches that the process already has a maximum value. (Frank, col. 5, lines 26-43). Frank contains no teaching or suggestion that groups of memory blocks are allocated based on a pre-assigned maximum number of allocated blocks. The “pre-assigned maximum number” that the Office Action alleges to be taught in Frank is simply a memory limit that is based on the size of the computer system’s memory address bus. This is not a “pre-assigned maximum number.” There is no “assignment” that occurs that imposes this limit; the limit is simply a function of the size of the computer system’s memory address bus. Therefore, Frank cannot reasonably be interpreted as teaching or suggesting “wherein each hash table is allocated a group of the memory blocks based on ... a pre-assigned maximum number of allocated blocks.”

The Office Action further asserts that “the maximum limit imposed by the operating system for requested memory is a pre-assigned element because it is an element that has been established when a comparison with a requested memory occurs.” (Office Action, page 13). Once again, the Applicants respectfully disagree with this reasoning. A maximum memory size imposed by a physical limitation of a bus is not the same as a limitation on a number of allocated blocks that has been “pre-assigned”. There is no “assignment” that occurs that imposes this limit; the limit is simply a function of the size of the computer system's memory address bus. The Office Action is stretching its interpretation of Frank beyond a “broadest reasonable interpretation” to an interpretation that is clearly unreasonable.

Second, even if Frank could reasonably be construed to teach or suggest a “pre-assigned maximum number” (and the Applicants do not agree that it can be so construed), the memory allocation disclosed in Frank is not in any way related to a hash table. Frank simply discloses a virtual memory allocation technique that provides a requested memory to a requesting process. Frank does not mention hash tables or teach or suggest that any of its disclosed techniques could be used in connection with hash tables. A person of skill in the art would have no reason or motivation to look to any teaching in Frank to cure the deficiencies of Hariguchi and Douceur.

Furthermore, Claim 1 recites that each hash table is allocated a group of memory blocks based on a size of the respective hash table AND a pre-assigned maximum number of allocated blocks. Thus, Claim 1 recites an allocation based on both of two different elements: (i) a size of the respective hash table, and (ii) a pre-assigned maximum number of allocated blocks. Even if Frank could reasonably be construed to teach “allocating memory based on a pre-assigned maximum

could reasonably be construed to teach “allocating memory based on a pre-assigned maximum number of allocated blocks”, that teaches an allocation based on only one element. Neither Frank nor Douceur teaches an allocation based on the two different elements recited in Claim 1, and the two references cannot just be combined to render this two-element requirement as obvious.

Therefore, Claim 1 is patentable over Hariguchi, Douceur, and Frank, separately or in combination. Independent Claims 8, 9, 10, and 14 recite features analogous to those of Claim 1 discussed above. Accordingly, Claims 8, 9, 10, and 14 are also patentable over Hariguchi, Douceur, and Frank, separately or in combination. The other claims depend from the independent claims and are patentable at a minimum due to their dependence from allowable base claims.

Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection.

CONCLUSION

As a result of the foregoing, the Applicants assert that the remaining claims in the Application are in condition for allowance, and respectfully request that this Application be passed to issue.


If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@munckcarter.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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